

ATTORNEY DOCKET NO.: A-66566-3/RFT/RAS/RMK

PATENT  
TECH CENTER 1600/2800  
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OCT 15 2001

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

re Application of:

BLACKBURN et al.

Serial No. 09/440,371

Filed: November 12, 1999

For: BINDING ACCELERATION  
TECHNIQUES FOR THE  
DETECTION OF ANALYTES

Examiner: Not Yet Assigned

Group Art Unit: 1643

CERTIFICATE OF MAILING

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Dated:

Signed:

10.9.01  
*Christine P. Peters*

Christine P. Peters

SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT  
AND  
STATEMENT OF RELATEDNESS

Assistant Commissioner  
for Patents  
Washington, DC 20231

Sir:

In satisfaction of the duty of disclosure under 37 C.F.R. § 1.56, and in accordance with the provisions of 37 C.F.R. §§ 1.97 and 1.98, Applicant wishes to draw the attention of the U.S. Patent and Trademark Office to the references cited on the accompanying form I TO-1449. Copies of the references are enclosed.

With respect to patent applications, the applicants point out their duty under M.P.E.P. §2001.06(b) to disclose relevant patent applications of which they are aware. To this end, the applicants draw the Examiner's attention to the following patent applications;

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TC 1449

**Serial No.:** 09/440,371  
**Filed:** November 12, 1999

1. U.S.S.N. 09/134,058, filed August 14, 1998, now Patent Number 6,290,839; U.S.S.N. 09/338,726, filed June 23, 1999, now Patent Number 6,264,825; U.S.S.N. 09/520,477, filed March 8, 2000; and U.S.S.N. 09/712,792, filed November 13, 2000.
2. United States Serial Number 08/743,798, filed November 5, 1996, now Patent Number 6,096,273; U.S.S.N. 08/873,978, filed June 12, 1997; U.S.S.N. 08/899,510, July 24, 1997, now Patent Number 6,221,583; U.S.S.N. 08/911,085, filed August 14, 1997, now Patent Number 6,090,933; U.S.S.N. 09/557,577, filed April 21, 2000; and U.S.S.N. 09/577,429, filed May 22, 2000.
3. U.S.S.N. 08/873,597, filed June 12, 1997; U.S.S.N. 08/911,589, filed August 14, 1997, now Patent Number 6,232,062; and U.S.S.N. 09/660,374, filed September 12, 2000.
4. U.S.S.N. 09/096,593, filed June 12, 1998.
5. U.S.S.N. 08/873,977, filed June 12, 1997, now Patent Number 6,013,459; 09/096,504, filed June 12, 1998, now Patent Number 6,013,170; U.S.S.N. 09/417,988, filed October 13, 1999, now Patent Number 6,248,229; U.S.S.N. 09/841,809, filed April 24, 2001.
6. U.S.S.N. 09/397,957, filed September 17, 1999.
7. U.S.S.N. 09/014,304, filed January 27, 1998, now Patent Number 6,063,573.
8. U.S.S.N. 09/135,183, filed August 17, 1998.
9. U.S.S.N. 09/306,653, filed May 6, 1999 and U.S.S.N. 09/452,277, filed February 3, 1999.
10. U.S.S.N. 09/428,155, filed October 27, 1999.
11. U.S.S.N. 09/295,691, filed April 21, 1999.
12. U.S.S.N. 09/472,657, filed December 27, 1999.
13. U.S.S.N. 09/245,105, filed January 27, 1999.

**Serial No.:** 09/440,371

**Filed:** November 12, 1999

14. U.S.S.N. 08/166,036, filed December 10, 1993, now Patent Number 5,591,578; U.S.S.N. 08/475,051, filed June 7, 1995, now Patent Number 5,824,473; U.S.S.N. 08/660,534, filed June 7, 1995, now Patent Number 5,770,369; U.S.S.N. 08/659,987, filed June 7, 1996, now abandoned; U.S.S.N. 08/709,265, filed September 6, 1996, now Patent Number 5,705,348; U.S.S.N. 08/709,263, filed September 6, 1996, now Patent Number 5,780,235; U.S.S.N. 08/873,598, filed June 12, 1997, now Patent Number 5,952,172; U.S.S.N. 08/946,679, filed October 8, 1997, now Patent Number 6,087,100; U.S.S.N. 09/100,507, filed June 19, 1998, now Patent Number 6,071,699; U.S.S.N. 09/306,749, filed May 7, 1999; U.S.S.N. 09/306,737, filed May 7, 1999, now Patent Number 6,177,250; U.S.S.N. 09/306,768, filed May 7, 1999, now Patent Number 6,277,576; U.S.S.N. 09/454,498, filed December 6, 1999, now Patent Number 6,268,149; U.S.S.N. 09/459,751, filed December 10, 1999, now Patent Number 6,268,150; U.S.S.N. 09/459,191, filed December 10, 1999, now Patent Number 6,180,352; U.S.S.N. 09/454,497, filed December 6, 1999, now Patent Number 6,200,761; U.S.S.N. 09/458,187, filed December 8, 1999, now Patent Number 6,238,870; U.S.S.N. 09/545,227, filed April 7, 2000, now Patent Number 6,258,545; and U.S.S.N. 09/602,618, filed June 22, 2000; U.S.S.N. 09/845,746, filed April 30, 2001; and U.S.S.N. 09/866,067, filed May 23, 2001.

15. U.S.S.N. 09/238,351, filed January 27, 1999 and 09/621,275 filed July 20, 2000.

None of the foregoing references are believed to disclose the invention as claimed. Nothing herein shall constitute an admission concerning the contents of any of the cited references, nor shall the inclusion of a reference herein be considered an admission that the reference constitutes prior art against the invention claimed in the above-identified application.

**Serial No.:** 09/440,371  
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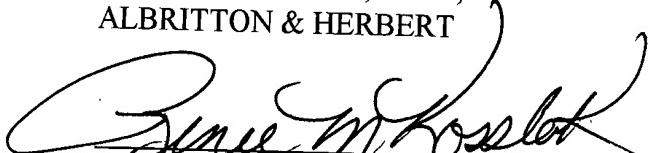
Submission of the present document shall not be construed as an admission that a search has been made or that better art does not exist.

This Information Disclosure Statement is being filed within three months of the filing date of a national application, within three months of the date of entry of a national stage, or before the mailing date of a first Office Action on the merits, 37 C.F.R. § 1.97(b), and therefore no fee is required. The Commissioner is authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account No. 06-1300 (Our Order No. A-66566-3/RFT/RMS/RMK).

Respectfully submitted,

FLEHR, HOHBACH, TEST,  
ALBRITTON & HERBERT

Dated: 10/18/01



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## INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

Sheet

1

of

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Complete if Known

Application Number	09/440,371
Filing Date	November 12, 1999
First Named Inventor	BLACKBURN et al.
Group Art Unit	1643
Examiner Name	Not Yet Assigned
Attorney Docket Number	A-66566-3/RFT/RMS/RMK

## U.S. PATENT DOCUMENTS

Examiner Initials*	Cite No. <sup>1</sup>	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number	Kind Code <sup>2</sup> (if known)			
1	4,704,193			Bowers et al.	11/1987	
2	4,945,045			Forrest et al.	07/1990	
3	5,089,112			Skotheim et al.	02/1992	
4	5,180,968			Bruckensteine et al.	01/1993	
5	5,242,828			Bergstrom et al.	09/1993	
6	5,356,786			Heller et al.	10/1994	
7	5,391,272			O'Daly et al.	02/1995	
8	5,436,161			Bergstrom et al.	07/1995	
9	5,443,701			Willner et al.	08/1995	
10	5,552,270			Khrapko et al.	9/1996	
11	5,700,667			Marble et al.	12/1997	
12	5,741,700			Ershov et al.	4/1998	
13	5,756,050			Ershov et al.	5/1998	
14	5,770,721			Ershov et al.	6/1998	

## FOREIGN PATENT DOCUMENTS

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		Office <sup>3</sup>	Number <sup>4</sup>				
15	WO	86/05815	A1	Genetics International Inc.	3/1985		
16	WO	97/31256	A3	Cornell Research Found.	08/1997		
17	WO	97/44651	A1	Australian Membrane and Biotechnology Research Institute	11/1997		
18	WO	97/27329	A1	Univ. of Chicago	7/1997		
19	WO	97/41425	A1	Pence Inc.	11/1997		
20	WO	98/27229	A1	Univ. of Chicago	6/1998		
21	WO	98/28444	A2	Univ. of Chicago	7/1998		
22	WO	98/51823	A1	Mosaic Technologies	11/1998		

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<sup>1</sup> Unique citation designation number. <sup>2</sup> See attached Kinds of U.S. Patent Documents. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup> Applicant is to place a check mark here if English Language Translation is attached.

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Sheet 2 of 5

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Application Number	09/440,371
Filing Date	November 12, 1999
First Named Inventor	BLACKBURN et al.
Group Art Unit	1643
Examiner Name	Not Yet Assigned
Attorney Docket Number	A-66566-3/RFT/RMS/RMK

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23	5,795,453	Gilmartin		08/1998		
24	5,824,473	Meade et al.		10/1998		
25	5,837,859	Teoule et al.		11/1998		
26	5,849,486	Heller et al.		12/1998		
27	5,851,772	Mirzabekov et al.		12/1998		
28	5,952,172	Meade et al.		09/1999		
29	6,060,023	Maracas		05/2000		
30	6,060,327	Keen		05/2000		
31	6,096,273	Kayyem et al.		08/2000		
32	6,071,699	Meade et al.		06/2000		
33	6,087,100	Meade et al.		07/2000		
34	6,096,825	Garnier et al.		08/2000		
35	6,107,080	Lennox		08/2000		
36	6,177,250	Meade et al.		01/2001		
37	6,180,352	Meade et al.		01/2001		
38	6,238,870	Meade et al.		05/2001		
39	6,200,761	Meade et al.		03/2001		
40	5,194,133	Clark et al.		03/1993		
41	5,728,532	Ackley		03/1998		
42	5,785,789	Gagnon et al.		07/1998		
43	5,945,286	Krihak et al.		03/1993		

**FOREIGN PATENT DOCUMENTS**

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		Office <sup>3</sup>	Number <sup>4</sup> (if known)				
44	WO	98/57159	A1	Clinical Micro Sensors, Inc.	6/1997		
45	WO	98/57319	A1	Clinical Micro Sensors, Inc.	11/1999		
46	WO	99/29711	A1	Nanogen Inc.	06/1999		
47	WO	99/67425	A2	Clinical Micro Sensors, Inc.	12/1999		
48	WO	99/37819	A2	Clinical Micro Sensors, Inc.	07/1999		
49	JP	6-41183	A2	Mitsubishi Chem Ind.	1997		

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<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b> <i>(use as many sheets as necessary)</i>				<b>Application Number</b>	09/440,371
				<b>Filing Date</b>	November 12, 1999
				<b>First Named Inventor</b>	BLACKBURN et al.
				<b>Group Art Unit</b>	1643
				<b>Examiner Name</b>	Not Yet Assigned
Sheet	3	of	5	Attorney Docket Number	A-66566-3/RFT/RMS/RMK

## U.S. PATENT DOCUMENTS

## FOREIGN PATENT DOCUMENTS

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# INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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USPTO Sheet 1 of 2

of 5

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<b>Application Number</b>	09/440,371
<b>Filing Date</b>	November 12, 1999
<b>First Named Inventor</b>	BLACKBURN et al.
<b>Group Art Unit</b>	1643
<b>Examiner Name</b>	Not Yet Assigned
<b>Attorney Docket Number</b>	A-66566-3/RFT/RMS/RMK

## OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS

TRADEMARK OFFICE Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
	63	Blonder et al., "Three-dimensional Redox-Active layered Composites of Au-Au, Ag-Ag and Au-Ag Colloids," Chem. Commun. 1393-1394 (1998).	
	64	Boon et al., "Mutation Detection by Electrocatalysis at DNA- Modified Electrodes," Nature Biotechnology, 18: 1096-1100 (October 2000).	
	65	Drobyshev, A. et al., "Sequence Analysis by Hybridization with Oligonucleotide Microchip: Identification of β-thalassemia Mutations," Gene, 188:45-52 (1997).	
	66	Dubiley, S. et al., "Fractionation, phosphorylation and Ligation on Oligonucleotide Microchips to Enhance Sequencing by Hybridization," Nucleic Acids Research, 25(12):2259-2265 (1997).	
	67	Elghanian et al., "Selective Colorimetric Detection of Polynucleotides Based on the Distance-Dependent Optical Properties of Gold Nanoparticles," Science, 277:1078-1081 (1997).	
	68	Fotin, A. et al., "Parallel Thermodynamic Analysis of Duplexes on Oligodeoxyribonucleotide Microchips," Nucleic Acids Research, 216(6):1515-1521 (1998).	
	69	Guschin, D. et al., "Manual Manufacturing of Oligonucleotide, DNA, and Protein Microchips," Analytical Biochemistry, 250:203-211 (1997).	
	70	Guschin, D. et al., "Oligonucleotide Microchips as Genosensors for Determinative and Environmental Studies in Microbiology," 63(6):2397-2402 (1997).	
	71	Hess et al., "Base Pairing Properties of Novel Transition Metal PNA Conjugates," Journal of Inorganic Biochemistry, 74:161 (1999).	
	72	Kamat et al., J. Phys. chem., 93(4):1405-1409 (1989).	
	73	Livshits, M. et al., "Theoretical Analysis of the Kinetics of DNA Hybridization with Gel-Immobilized Oligonucleotides," Biophysical Journal, 71:2795-2801 (1996).	
	74	Mirkin et al., "A DNA-based Method for Ratioally Assembling Nonoparticles into Macroscopic Materials," Nature, 382:607-609 (1996).	
	75	Mirzabekov, A. et al., "DNA Sequencing by Hybridization - a Megasequencing Method and a Diagnostic Tool," Tibtech, 12:27-32 (1994).	
	76	Mitchell et al., "Programmed Assembly of DNA Functionalized Quantum Dots," J. Am. Chem. Soc., 121:8122-8123 (1999).	
	77	Mucic et al., "DNA-Directed Synthesis of Binary Nanoparticle Network Materials," J. Am. Chem. Soc., 120:12674-12675 (1998).	

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(Use as many sheets as necessary)		<b>Filing Date</b>	November 12, 1999
		<b>First Named Inventor</b>	BLACKBURN et al.
		<b>Group Art Unit</b>	1643
		<b>Examiner Name</b>	Not Yet Assigned
Sheet	5	Attorney Docket Number	A-66566-3/RFT/RMS/RMK

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